



# FACT SHEET



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## TECHNOLOGY SEGMENT

### THE ROLE OF THE TECHNOLOGY SEGMENT



The fundamental role of MDA's Science and Technology Office (S&T) is to enable the development of a technologically superior MD program that stays ahead of the threat. Investments in technology have long been a critical element of the Ballistic Missile Defense (BMD) program. Technologies that are the essential enablers of today's MD programs are the result of investments made in the 1980s and 1990s. Our ability to support the operational concepts to defeat the threats of 2020 and beyond depends on today's S&T investments.

MDA has reexamined the balance between our near- and far-term technology activities. As a result, S&T technology investment is shifting from a primary focus on near-term support of our terminal defense systems to a broader focus on the entire battlespace, including addressing the potential countermeasure challenges of a midcourse phase engagement and the early engagement opportunities and challenges in the boost phase. From an acquisition system perspective, future upgrades to our Midcourse Defense Segment are now our highest priority within the technology segment.

#### OBJECTIVES OF THE S&T PROGRAM

- Support Missile Defense Segments with Component Technology Improvement
- Focus on High Payoff Technology
- Deliver Specific Products that Can be Transitioned to Major Elements of the Overall BMD Program
- Emphasize the Development of Enabling Technology for Revolutionary Concepts
- Leverage DoD and Service Investments in Generic or Multi-Mission Science and Technology

### THRUST AREAS

As part of the shift in emphasis, MDA has identified four technology thrust areas within its advanced technology development activities to guide improvements to existing systems and to develop the technology that will enable advanced system concepts to defeat future regional, national, and global threats.

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**Thrust Areas**

- **Terminal Missile Defense**  
Focus on those technologies that enable performance improvements and cost reductions through block upgrades to our current development configurations that engage the ballistic missile threat in the terminal phase, and provide for long-range atmospheric defense.
- **Midcourse Counter-Countermeasures (CCM)**  
Develop concepts and technologies that aid in midcourse discrimination and in negation of more advanced threats. Projects of interest in our CCM program include integrated active and passive seeker using beyond-Commercial-Off-The-Shelf (COTS) processors, new transportable discriminating radar technologies, and development of miniature kill vehicles to defeat multiple objects.
- **Boost Phase Intercept (BPI)**  
Address the fundamental operational challenge involving the short time available in which to engage the enemy booster after launch. This has led to consideration of new technology projects for launch detection, early tracking and typing, advanced kinetic kill vehicles, and directed energy weapons.
- **Global Defense**  
Develop technologies for systems that would permit rapid detection, tracking, and negation of missile threats regardless of country of origin. Advanced passive and active surveillance technologies are the primary focus.

A number of technology activities, grouped together as Enabling Technology Support, provide technology products that support all four thrust areas. These activities are essential for future robust, effective missile defense systems and include multi-application development activities in the areas of radar; materials, structures and power; space experiments; and engineering analysis.

Also included is the Innovative Science and Technology effort, which continues to pursue less mature, high-leverage technologies in support of all four thrust areas, and the statutory programs, mandated by Congress to develop new and dual-use (commercial application) technologies.

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